

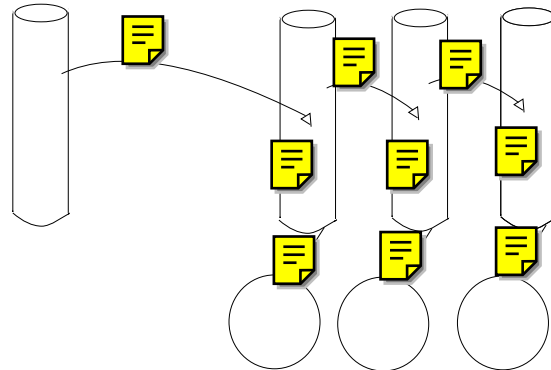
Dilution Problems (show work for partial credit)

Name _____

I. You carry out two (1:50) dilutions of a bacterial culture. Then, you make a spread plate with 0.1ml of the FINAL dilution. You have 230 colonies on your plate after the plate was allowed to incubate two days. What is the dilution final cumulative fraction? What is the final cumulative dilution factor? What is the initial concentration of the culture?

II. You have a culture of about 2×10^4 bacteria. What is the total cumulative dilution fraction you would need to get about 100 colonies (bacteria) on a pour plate. Use a diagram if necessary.

III. Given the following dilution scheme:



A. What is the cumulative dilution factor for each tube ?

Tube 1:

Tube 2:

Tube 3:

B. Plates A, B, C have 750, 450, and 45 colonies respectively. Which plate would you use to determine the initial concentration of the sample? What is the most likely concentration of the original culture?